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EXAMINER

STRANGE, AARON N

ART UNIT	PAPER NUMBER
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2153

DATE MAILED: 07/01/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application

09/728,543

Applicant(s)

YACH, DAVID

Examiner

Aaron Strange

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The declaration filed on 4-5-04 under 37 CFR 1.131 has been considered but is ineffective to overcome the Lowery reference (US 6,446,111).
2. The evidence submitted is insufficient to establish a conception of the invention prior to the effective date of the Lowery reference. While conception is the mental part of the inventive act, it must be capable of proof, such as by demonstrative evidence or by a complete disclosure to another. Conception is more than a vague idea of how to solve a problem. The requisite means themselves and their interaction must also be comprehended. See *Mergenthaler v. Scudder*, 1897 C.D. 724, 81 O.G. 1417 (D.C. Cir. 1897).
3. The affidavit or declaration and exhibits must clearly explain which facts or data Applicant is relying on to show completion of his or her invention prior to the particular date. Vague and general statements in broad terms about what the exhibits describe along with a general assertion that the exhibits describe a reduction to practice "amounts essentially to a mere pleading, unsupported by proof or a showing of facts" and, thus, does not satisfy the requirements of 37 CFR 1.131(b) (See MPEP § 715.07).
4. While the attached document, "Blackberry Internet Content Functional Specification" shows the invention in general terms, Applicant has failed to show the specific parts of the document which are intended to support the claimed invention. For example, the cited sections of the document fail to describe a plurality of content translators coupled to a host device which translate content types into virtual machine

language programs. Merely a general statement that various formats and languages can be translated into byte code appears at the bottom of page 6.

5. Applicant has failed to sufficiently relate specific portions of the exhibits to the portions of the claims which they allegedly support. Large sections of the exhibits are cited to support small elements in the claims, accompanied by a general statement asserting that the section provides support. For example, section 6.2 is cited in reference to the VM program interpreter, without further elaboration as to how specific parts of section 6.2 provide support for the claim language. Additionally, the terms appearing in the declaration and exhibits, such as VM program interpreter and transformation engine, are not described in reference to their appearance in the claims. Applicant must give a clear explanation of the exhibits pointing out exactly what facts are established and relied upon by Applicant. (See MPEP § 715.07).

6. Furthermore, the document "Blackberry Internet Content Functional Specification" is not authored by Applicant. Applicant has stated that the cited sections of the document were derived from Applicant's work, but has failed to provide any evidence in support of that assertion. Applicant must show which parts of the document, if any, were authored by Applicant. Applicant must also specifically show all parts of the document derived from Applicant's invention in addition to providing evidence to support that the author derived his knowledge of the relevant subject matter from Applicant. (See MPEP § 715.01(c)).

7. In determining the sufficiency of a 37 CFR 1.131 declaration, diligence need not be considered unless conception of the invention prior to the effective date is clearly

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established, since diligence comes into question only after prior conception is established. (See MPEP § 715.07(a)). However, in the interest of compact prosecution, the Examiner notes the following deficiencies.

8. The evidence submitted is insufficient to establish diligence from a date prior to the date of the Lowery reference (6-18-1999) to either a constructive reduction to practice or an actual reduction to practice preceding the filing of US Provisional Application #60/169,032 on December 3, 1999. The document submitted on Tab B, titled "VMLite.cpp Revision History" has not been sufficiently described to allow a full analysis. Applicant has failed to relate the VMLite.cpp program to a feature or features in the claims, so it is unclear what that program represents. It is unclear how or when the document submitted was generated as well as what the entries mean. There is no description of what exactly causes a new entry to be generated or what occurs between each entry in the list. The description provided does not allow a complete analysis of the facts in order to determine diligence without requiring speculation as to the meaning and content of the document. Applicant must provide a sufficient description of the document and explain how it shows diligence.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the

applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-4,10-12,14-20,22,24,27,28,32-34,36-38,40,42, and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by Lowery (US 6,446,111).

11. With regard to claim 1, Lowery discloses a host device (server) coupled to one or more information sources including a plurality of content types for retrieving information (Col 9, Lines 1-5), a translation component (web server or external program), including a plurality of content translators, coupled to the host device (Col 9, Lines 43-47), wherein each translator is configured to translate one of the plurality of content types into common virtual machine language programs (applets) (Col 15, Lines 24-32). A plurality of content translators is an inherent part of the translation component in the system disclosed by Lowery. Lowery discloses that the client requests information from data sources which provide various data and content information which may be either static or dynamic (Col 9, Lines 5-7). It is clear that multiple content translators must be present in the translation component in order to handle different data types that the client may request.

12. With regard to claim 2, Lowery further discloses a plurality of client devices coupled to the translation component (Col 8, Lines 9-14), each of the client devices

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including an interface for receiving virtual machine language programs from the translation component and a virtual machine engine for executing the virtual machine language programs received (Col 6, Lines 36-38 and Col 16, Lines 20-26).

13. With regard to claim 3, Lowery further discloses a file explorer component for sending an information request to the host device (Col 8, Lines 26-29), which then retrieves the requested information from the information sources and passes the requested information to the translation component (Col 15, Lines 24-32).

14. With regard to claim 10, Lowery further discloses that the information is retrieved from one or more information sources using a TCP/IP network connection between the host and the information sources (Col 8, Lines 30-35). The Internet is a TCP/IP network connection.

15. With regard to claim 11, Lowery further discloses that at least one of the information sources is a web site (Col 7, Lines 25-29). The use of the Internet as a connection is also disclosed (Col 8, Lines 30-35).

16. With regard to claim 12, a byte code generator coupled to the translation component for compressing the virtual machine language programs is inherent. The use of a byte code generator is inherent in the generation of an applet, since the byte code is needed by the virtual machine in order to execute the applet. The generation of an applet is disclosed by Lowery, and thus a byte code generator is present despite the lack of a specific reference to it.

17. With regard to claim 14, Lowery further discloses a network coupling the plurality of client devices to the translation component (Col 16, Lines 20-26 and Figure 1, 16).

18. With regard to claim 15, a network protocol interface for transmitting and receiving data via the network is inherent. A network interface is required in order to transmit and receive data over a network. The receipt of information requests and the transmission of applets are disclosed by Lowery, so a network interface is included in the system despite the lack of a specific reference to one.

19. With regard to claim 16, Lowery further discloses that the virtual machine language programs are packetized for transmission to the plurality of client devices (Col 6, Lines 7-11).

20. With regard to claim 17, Lowery further discloses that the network coupling the client devices and the translation component is a wireless digital data network (Col 8, Lines 34-37).

21. With regard to claim 18, Lowery further discloses that the wireless digital data network is a packet data network (Col 6, Lines 7-11 and Claim 5).

22. With regard to claim 19, Lowery discloses that the clients are mobile computing apparatuses (PalmPilots and cellular phones)(Col 8, Lines 18-21).

23. With regard to claim 20, Lowery further discloses that the clients are PDAs, cellular telephones, Internet appliances or two-way pagers (Col 8, Lines 18-21).

24. With regard to claim 22, Lowery further discloses that the content translator (applet generator) is located at the host system (Col 9, Lines 43-47).

25. With regard to claim 24, Lowery further discloses that the clients include a program store for storing a plurality of virtual machine language programs (Col 12, Lines 44-51). Lowery discloses that the applet may be retained on a client which contains

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memory or storage means to store it, should the client want it to remain. If the client retains an applet previously received and then receives another, a plurality of machine language programs will be stored in the program store.

26. With regard to claim 27, Lowery discloses a plurality of information sources for storing information (Col 9, Lines 1-5), a host device coupled to the plurality of information sources for retrieving the stored information (Col 9, Lines 1-5), including a plurality of content translators for translating the content types into virtual machine language programs (Col 9, Lines 43-47), and a plurality of client devices for transmitting information requests to access the stored information to the host device and receiving the virtual machine language programs in response to the information requests Col 8, Lines 9-14), wherein the client devices include a virtual machine engine for executing the virtual machine language programs (Col 6, Lines 36-38 and Col 6, Lines 35-41). A plurality of content translators is an inherent part of the translation component in the system disclosed by Lowery. Lowery discloses that the client requests information from data sources which provide various data and content information which may be either static or dynamic (Col 9, Lines 5-7). It is clear that multiple content translators must be present in the translation component in order to handle different data types that the client may request.

27. With regard to claim 28, Lowery discloses a wireless data network for communicating with the wireless data communication device (client) (Col 7, Lines 37-38), a gateway system coupled between the wireless network and a plurality of information sources (Figure 1, 18), with the gateway comprising an interface for sending

requests to the plurality of information sources and for receiving corresponding documents in return wherein the documents include a plurality of content types (Col 9, Lines 3-7), and a plurality of content translators for translating the documents into virtual machine language programs (Col 9, Lines 43-47), wherein the wireless communication device (client) includes a file explorer for generating an information request to the gateway system and receiving a corresponding virtual machine language program (Col 8, Lines 26-29 and Col 16, Lines 20-22), and a virtual machine engine for executing the received program (Col 6, Lines 36-38 and Col 16, Lines 22-26). A plurality of content translators is an inherent part of the translation component in the system disclosed by Lowery. Lowery discloses that the client requests information from data sources which provide various data and content information which may be either static or dynamic (Col 9, Lines 5-7). It is clear that multiple content translators must be present in the translation component in order to handle different data types that the client may request.

28. With regard to claim 32, Lowery discloses retrieving information from the information source (Fig 3, 52), translating the information from at least one content type into a virtual machine language program (Fig 3, 53), and transmitting the virtual machine language program to the client device via a network (Fig 3, 54). (Also refer to Col 15, Lines 24-32 and Col 16, Lines 20-26)

29. With regard to claim 33, Lowery further discloses executing the virtual machine language program at the client device (Col 16, Lines 20-26).

30. With regard to claim 34, Lowery further discloses storing a plurality of virtual machine language programs at the client device (Col 12, Lines 44-51). Lowery

discloses that the applet may be retained on a client which contains memory or storage means to hold it. If the client retains an applet previously received and then receives another, a plurality of machine language programs will be stored on the device.

31. With regard to claim 36, Lowery further discloses compressing the virtual machine language programs prior to transmitting them to the client device (Col 15, Lines 29-31). Compression is an inherent part of building an applet. When converting an applet from the source code into byte code, the program is compressed due to this conversion process since byte code is more compact than source code. Therefore, the step of compressing the virtual machine language program is present in the system disclosed by Lowery, despite the lack of a specific reference.

32. With regard to claim 37, Lowery discloses sending an information request from a host system to one or more information sources (Col 15, Lines 24-28), translating the information into one or more virtual machine language programs (Col 15, Lines 29-31), and transmitting the one or more virtual machine language programs to a client device that generated the information request (Col 16, Lines 20-22).

33. With regard to claim 38, Lowery further discloses a plurality of content translators configured to translate one of a plurality of content types and operating the translators to translate the plurality of content types into one or more virtual machine language programs (Col 9, Lines 43-47). A plurality of content translators is an inherent part of the translation component in the system disclosed by Lowery. Lowery discloses that the client requests information from data sources which provide various data and content information which may be either static or dynamic (Col 9, Lines 5-7). It is clear that

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multiple content translators must be present in the translation component in order to handle different data types that the client may request.

34. With regard to claim 39, Lowery further discloses the execution of the virtual machine language programs on the client device (Col 16, Lines 22-24).

35. With regard to claim 40, Lowery further discloses the storing of the virtual machine programs at the client device (Col 16, Lines 22-23).

36. With regard to claim 42, Lowery further discloses compressing the virtual machine language programs prior to transmitting them to the client device (Col 15, Lines 29-31). Compression is an inherent part of building an applet. When converting an applet from the source code into byte code, the program is compressed due to this conversion process since byte code is more compact than source code. Therefore, the step of compressing the virtual machine language program is present in the system disclosed by Lowery, despite the lack of a specific reference.

37. With regard to claim 43, Lowery further discloses retrieving a requested document from one of the plurality of information sources (Col 15, Lines 24-28), translating the requested document into a virtual machine language program (Col 15, Lines 29-31), transmitting the virtual machine language program over a wireless network to a wireless data communication device (Col 16, Lines 20-26 and Claim 5), and executing the virtual machine language program at the wireless data communication device (Col 16, Lines 22-24).

Claim Rejections - 35 USC § 103

38. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

39. Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery (US 6,446,111) in view of Mercer (US 6,547,830).

40. With regard to claims 5-9, Lowery discloses the use of a translator to translate web pages into applets for transmission to a requesting client. However, the reference does not specifically disclose the content types that can be translated when converting a web page to an applet.

Mercer teaches the use of HTML, HDML, XML, and WML, combinations thereof, and equivalents thereof as means for authoring a web page (Mercer Col 5, Lines 23-30). Since and combination of these languages can be used for representing web pages, a translator for each type of language would be desirable to allow the client to view pages written in each language.

Therefore, it would have been obvious to anyone of ordinary skill in the art at the time the invention was made to modify the invention of Lowery to include translators for HTML, HDML, XML, WML, and any other language used to represent web pages. This modification would allow the clients in Lowery's system to view web pages written in any of the above languages, after being converted into a virtual machine language program.

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41. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery (US 6,446,111) in view of Evoy (US 5,937,193).

42. While the system disclosed by Lowery includes substantial features of the claimed invention (discussed above), including the conversion of source code into bytecode. However, the use of a look up table when converting source code into byte code is not specifically disclosed.

In an analogous art, Evoy teaches the use of a look-up table to translate platform independent instructions such as Java bytecodes into corresponding native instructions for execution by a processor (Evoy Col 4, Lines 25-28). The look-up table provides a means to directly map one set of instructions to the other, and is a very fast method of conversion.

Therefore, it would have been obvious to anyone of ordinary skill in the art at the time then invention was made to modify the system disclosed by Lowery to use a look-up table as taught by Evoy in the process of converting source code into bytecode, since it is a simple and fast method of directly mapping one language to another.

43. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery (US 6,446,111).

44. While the system disclosed by Lowery includes substantial features of the claimed invention (discussed above), it fails to disclose a virtual machine pass through component.

While the reference does not disclose a virtual machine pass through

component, the advantage of one is obvious. If the client were to request a virtual machine language program directly, it does not need to be converted into a virtual machine language program, and can be transmitted in its pre-existing form. Converting a program to a format that it is already in would be a waste of time and computing resources.

Therefore, it would have been obvious to anyone of ordinary skill in the art at the time the invention was made to modify the system disclosed by Lowery to include a virtual machine language program pass through component to allow existing virtual machine language programs to be sent to the client without going through a conversion process. Avoiding the conversion process will save computing resources and speed up the process of answering a client request.

45. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery (US 6,446,111).

46. While the system disclosed by Lowery includes substantial features of the claimed invention (discussed above), including the use of multiple servers and separating devices in the system (Col 17, Lines 36-45), it fails to disclose separating the content translator from the host system and coupling them via an HTTP interface.

It is clear that Lowery allowed for the content translator and the host system to be separated since they are elements in the system and the separation of system components is disclosed. An HTTP interface is disclosed by Lowery as a means of communicating between the client and the server (Col 9, Lines 29-32).

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Therefore, it would have been obvious to anyone of ordinary skill in the art at the time the invention was made to separate the content translator from the host system and communicate between the two via an HTTP interface, since it is the same interface Lowery uses to communicate between the host system and other components in the network.

47. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery (US 6,446,111) in view of McGarvey (US 5,926,631).

48. With regard to claim 25, Lowery discloses a file explorer interface for generating an information request (Col 8, Lines 26-29), but does not disclose the steps of determining if the requested information is associated with a virtual machine language program already located in the program store, and retrieving the program from the program store if it is located there, and sending the information request to the server if it is not there.

McGarvey teaches the use of a Java code cache to store virtual machine language programs on a client. If a program is desired, the program loader checks the cache to see if the program is located there. If it is, the program is retrieved and executed. If not, a request is made of the server for the program (McGarvey Col 9, Lines 18-32). This speeds up acquisition of the program and reduces network traffic if the program is found at the client.

Therefore, it would have been obvious to modify the system disclosed by Lowery to utilize a program store as disclosed by McGarvey to cache virtual machine language

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and only request programs which are not already stored at the client in order to speed up the acquisition of the program and decrease network traffic.

49. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery (US 6,446,111) in view of Gosling (US 5,630,066).

50. While the system disclosed by Lowery includes substantial features of the claimed invention (discussed above), it fails to disclose a program verification component for verifying the integrity of a virtual machine language program.

Gosling teaches the use of a bytecode program verifier for verifying bytecode programs received from remote computer nodes. The verification process will help prevent undesirable occurrences such as underflow/overflow of the operand stack or attempts to process incorrect data types (Gosling Col 3, Lines 3-40).

Therefore, it would have been obvious to anyone of ordinary skill in the art at the time the invention was made to add a program verification component as disclosed by Gosling to the system disclosed by Lowery in order to verify virtual machine language programs to prevent the software from failing by processing incorrect data types or going over the bound of the operand stack.

51. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery (US 6,446,111) in view of McGarvey (US 5,926,631).

52. While the system disclosed by Lowery includes substantial features of the claimed invention (discussed above), it fails to disclose a memory for cacheing a plurality or previously requested virtual machine language programs, determining if an

information request is associated with a cached program, and retrieving the caches program from the memory.

McGarvey teaches the use of a Java code cache to store virtual machine language programs on a client. If a program is desired, the program loader checks the cache to see if the program is located there. If it is, the program is retrieved and executed (McGarvey Col 9, Lines 18-32). This speeds up acquisition of the program and allows the client to execute it sooner.

Therefore, it would have been obvious to modify the system disclosed by Lowery to utilize a program store as disclosed by McGarvey to cache virtual machine language and retrieve programs associated with information requests in order to speed up the acquisition of the program and begin executing it faster.

53. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery (US 6,446,111) in view of Gosling (US 5,630,066).

54. While the system disclosed by Lowery includes substantial features of the claimed invention (discussed above), it fails to disclose a program verification component for verifying the integrity of a virtual machine language program.

Gosling teaches the use of a bytecode program verifier for verifying bytecode programs received from remote computer nodes. The verification process will help prevent undesirable occurrences such as underflow/overflow of the operand stack or attempts to process incorrect data types (Gosling Col 3, Lines 3-40).

Therefore, it would have been obvious to anyone of ordinary skill in the art at the time the invention was made to add a program verification component as disclosed by

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Gosling to the system disclosed by Lowery in order to verify virtual machine language programs to prevent the software from failing by processing incorrect data types or going over the bound of the operand stack.

55. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery (US 6,446,111).

56. With regard to claims 5-9, Lowery discloses the use of a translator to translate web pages into applets for transmission to a requesting client. However, the reference does not specifically disclose the content types that can be translated when converting a web page to an applet.

Mercer teaches the use of HTML, HDML, XML, and WML, combinations thereof, and equivalents thereof as means for authoring a web page (Mercer Col 5, Lines 23-30). Since and combination of these languages can be used for representing web pages, a translator for each type of language would be desirable to allow the client to view pages written in each language.

Therefore, it would have been obvious to anyone of ordinary skill in the art at the time the invention was made to modify the invention of Lowery to include translators for HTML, HDML, XML, WML, and any other language used to represent web pages. This modification would allow the clients in Lowery's system to view web pages written in any of the above languages, after being converted into a virtual machine language program.

57. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery (US 6,446,111) in view of McGarvey (US 5,926,631).

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58. With regard to claim 35, Lowery discloses the steps of generating an information request at the client device (Col 8, Lines 26-29), but does not disclose the steps of determining if a virtual machine language program associated with the information request is stored at the client device, and sending the information request to the server if the associated virtual machine language program is not stored at the client device.

McGarvey teaches the use of a Java code cache to store virtual machine language programs on a client. If a program is desired, the program loader checks the cache to see if the program is located there. If the program is not stored at the client, a request is made of the server for the program (McGarvey Col 9, Lines 18-32). This speeds up acquisition of the program and reduces network traffic if the program is found at the client.

Therefore, it would have been obvious to modify the system disclosed by Lowery to utilize a program store as disclosed by McGarvey to cache virtual machine language and only request programs which are not already stored at the client in order to speed up the acquisition of the program and decrease network traffic.

59. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery (US 6,446,111) in view of McGarvey (US 5,926,631).

60. While the system disclosed by Lowery includes substantial features of the claimed invention (discussed above), it fails to disclose the step of sending an information request from the client device to an information source if the virtual machine language program associated with the information request is not stored at the client device.

McGarvey teaches the use of a Java code cache to store virtual machine language programs on a client. If a program is desired, the program loader checks the cache to see if the program is located there. If the program is not stored at the client, a request is made of the server for the program (McGarvey Col 9, Lines 18-32). This speeds up acquisition of the program and reduces network traffic if the program is found at the client.

Therefore, it would have been obvious to modify the system disclosed by Lowery to utilize a program store as disclosed by McGarvey to cache virtual machine language and only request programs which are not already stored at the client in order to speed up the acquisition of the program and decrease network traffic.

Conclusion

61. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

62. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

63. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Strange whose telephone number is 703-305-8878. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 703-305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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